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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,438	12/11/2006	Arthur Schwesig	4385-61402	7874
28289 7590 01/09/2009 THE WEBB LAW FIRM, P.C. 700 KOPPERS BUILDING 436 SEVENTH AVENUE PITTSBURGH, PA 15219			EXAMINER KOLLIAS, ALEXANDER C	
			ART UNIT	PAPER NUMBER
			1796	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/579,438	<b>Applicant(s)</b> SCHWESIG ET AL.	
	<b>Examiner</b> ALEXANDER C. KOLLIAS	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 28-53 is/are pending in the application.
- 4a) Of the above claim(s) 46-53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20071113</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election / Restriction***

1. Applicant's election without traverse of Group I, claims 28-45 in the reply filed on 10/31/2008 is acknowledged.
2. Claims 46-53 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Invention. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
3. Applicant is reminded of proper format of amendments to claims, which when filed on or after July 30, 2003 must comply with 37 CFR 1.121(c). Specifically, the withdrawn claims must be identified as "(Withdrawn)"

### ***Specification***

4. The use of the trademarks MELPNA NU02Mf and MELPAN A462 has been noted in this application. They should be capitalized wherever they appear and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 34 and 43-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claims 34 and 43-45 recite “technical sodium borate”. It appears that “technical” refers to the grade or purity of sodium borate. However, it is unclear what purity is encompassed by the term “technical”.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Art Unit: 1796

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 28-29, 31, 34-35, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawada et al (US 2003/0030042) in view of Dyer (US 5,968,986) and Curzon et al (US 2003/0170317).

Regarding claims 28-29, 31-32, 34-35, and 39, Sawada et al teaches a composition comprising polymers and zinc borates of the formula



where m is from 2.8 to 3.2 and X is an integer not larger than 4 (Page 2, [0043]-[0044]). The disclosed zinc borate meets the limitations of the recited formula recited in claim 1. The reference discloses that zinc borate can be added to resins such as melamine formaldehyde resins (Page 5, [0085]) in the amount from 1 to 150 parts by weight per 100 parts by weight resin (Page 4, [0082]). The reference discloses that the zinc borate can be used as an antibacterial agent as well as a fire retarding component (Page 5, [0087] and Page 7, [0129]). The disclosed melamine-formaldehyde resin meets the limitations recited in **claim 29**.

Art Unit: 1796

Sawada et al discloses all the claim limitations as set for both. However, the reference does not disclose the antibacterial compound such as the quaternary ammonium compound given by the formula recited in **claim 28**.

Dyer discloses a coating composition comprising melamine-formaldehyde resin and benzalkonium chloride (BAC) given by disclosed Formula 1 (Column 4, Lines 4-15 and Column 7, Lines 35-50). The disclosed formula is identical to the quaternary ammonium formula recited in **claim 28** and therefore meets the limitations recited in **claims 28 and 39**. The reference discloses that BAC is added to the composition in the amount from 0.05 wt % to 5 wt % and provide prevention against organic contaminants (Column 3, Lines 3-6 and Lines 58-63).

Given that both Sawada et al and Dyer are drawn to compositions comprising melamine formaldehyde resins and antibacterial compounds, and, given that Sawada et al does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the benzalkonium chloride as taught by Dyer, it would therefore have been obvious to one of ordinary skill in the art to include such antibacterial compounds in the composition disclosed by Sawada et al with a reasonable expectation of success.

Modified Sawada teaches all the claim limitations as set forth above. However, Sawada et al does not disclose a borate salt of orthoboric acid.

Curzon et al discloses a composition comprising boron containing compounds which inhibit or reduce the growth, build-up, and deposit of microbes (Page 1, [0002] and Page 10 [0093]). The boron compounds such as zinc borate, potassium borate, calcium borate, borax, etc are added to the composition in the amount from 0 to 10 wt which can be added singly or in mixtures (Page 1, [0002] Page 10 [0092]-[0093]). The reference discloses that the borate

Art Unit: 1796

compound inhibit growth of microbes, are anticorrosive and promote fire retardancy, meeting the limitations recited in **claims 31 and 35** (Page 10 [0092]-[0094]), It is noted that the compounds sodium, and calcium borate are salts of boric acid and boric acid is commonly known in the art as orthoboric acid, therefore the compounds disclosed by the reference meet the limitations drawn to salts of orthoboric acid recited in **claim 28 and 31**. Further it is noted that the compound borax is commonly known in the art as sodium tetraborate decahydrate, meeting the limitations recited in **claims 32 and 34**.

Given that both Sawada et al and Curzon et al compositions comprising antibacterial/fire retardant compounds, and, given that Sawada et al does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the borate salts as taught by Curzon et al, it would therefore have been obvious to one of ordinary skill in the art to include such borate compound in the composition disclosed by Sawada et al with a reasonable expectation of success.

11. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sawada et al (US 2003/0030042) in view of Dyer (US 5,968,986) and Curzon et al (US 2003/0170317) as applied to claims 28-29, 31, 34-35, and 39 above, and further in view of Ratzsch et al (WO 2003/046053, see English language translation US 2005/0038226).

Regarding claim 30, modified Sawada teaches all the claim limitations as set forth above. However, Sawada et al does not disclose etherified melamine resins.

Ratzsch et al discloses melamine resins which are etherified by C<sub>1</sub>-C<sub>4</sub> alcohols (Page 7, [0110]). The reference discloses that the advantage of these melamine resins when applied to

Art Unit: 1796

molding products is that they have a higher melt viscosity compared to triazine derivatives such as melamine formaldehyde precondensates (Page 7, [0112]).

Given that Sawada and Ratzsch are both drawn to compositions comprising melamine resin, in light of the particular advantages provided by the use and control of the etherified melamine resins as taught by Ratzsch et al, it would therefore have been obvious to one of ordinary skill in the art to include such resins in the composition disclosed by Sawada et al with a reasonable expectation of success

12. Claims 28-29, 31-32, 34-35, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtinen et al (US 6,030,562) in view of Dyer (US 5,968,986) and Curzon et al (US 2003/0170317).

Regarding claims 28-29, 31-32, 34-35, and 39, Lehtinen et al discloses a composition comprising melamine-urea-formaldehyde resin and zinc borate (Column 2, Lines 13-19 and Lines 55-63 and Column 3, Lines 15-29). The disclosed melamine resin meets the limitations recited in **claim 29**. The reference discloses that zinc borate comprises 0.1 to 3 wt % of the composition and melamine resin comprises 9 wt % to 15 wt % (Column 3, Lines 8-9 and Lines 21-23). Based on the amounts of melamine resin and borate salt, borate salt comprises

Lehtinen et al teaches all the claim limitations as set forth above. However, the reference does not disclose benzalkonium chloride.

Dyer discloses a coating composition comprising melamine-formaldehyde resin and benzalkonium chloride (BAC) given by disclosed Formula 1 (Column 4, Lines 4-15 and Column 7, Lines 35-50). The disclosed formula is identical to the quaternary ammonium formula recited



Art Unit: 1796

in **claim 28** and therefore meets the limitations recited in **claims 28 and 39**. The reference discloses that BAC is added to the composition in the amount from 0.05 wt % to 5 wt % and provides prevention against organic contaminants (Column 3, Lines 3-6 and Lines 58-63).

Given that both Lehtinen et al and Dyer are drawn to compositions comprising melamine formaldehyde resins and antibacterial compounds, and, given that Lehtinen et al does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of the benzalkonium chloride as taught by Dyer, it would therefore have been obvious to one of ordinary skill in the art to include such antibacterial compounds in the composition disclosed by Lehtinen et al with a reasonable expectation of success.

Modified Lehtinen teaches all the claim limitations as set forth above. However, Lehtinen et al does not disclose a borate salt of orthoboric acid.

Curzon et al discloses a composition comprising boron containing compounds which inhibit or reduce the growth, build-up, and deposit of microbes (Page 1, [0002] and Page 10 [0093]). The boron compounds such as zinc borate, potassium borate, calcium borate, borax, etc are added to the composition in the amount from 0 to 10 wt which can be added singly or in mixtures (Page 1, [0002] Page 10 [0092]-[0093]). The reference discloses that the borate compound inhibit growth of microbes, are anticorrosive and promote fire retardancy, meeting the limitations recited in **claims 31 and 35** (Page 10 [0092]-[0094]), It is noted that the compounds sodium, and calcium borate are salts of boric acid and boric acid is commonly know in the art as orthoboric acid, therefore the compounds disclosed by the reference meet the limitations drawn to salts of orthoboric acid recited in **claim 28 and 31**. Further it is noted that the compound

Art Unit: 1796

borax is commonly known in the art as sodium tetraborate decahydrate, meeting the limitations recited in **claims 32 and 34**.

Given that both Lehtinen et al and Curzon et al compositions comprising antibacterial compounds, and, given that Lehtinen et al does not explicitly prohibit other ingredients, in light of the particular advantages provided by the use and control of borate salts as taught by Curzon et al, it would therefore have been obvious to one of ordinary skill in the art to include such borate compound in the composition disclosed by Lehtinen et al with a reasonable expectation of success.

13. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtinen et al (US 6,030,562) in view of Dyer (US 5,968,986) and Curzon et al (US 2003/0170317) as applied to claims 28-29, 31-32, 34-35, and 39 above, and further in view of Ratzsch et al (WO 2003/046053, see English language translation US 2005/0038226).

Regarding claim 30, modified Lehtinen teaches all the claim limitations as set forth above. However, Lehtinen et al does not disclose etherified melamine resins.

Ratzsch et al discloses melamine resins which are etherified by C<sub>1</sub>-C<sub>4</sub> alcohols (Page 7, [0110]). The reference discloses that the advantage of these melamine resins when applied to molding products is that they have a higher melt viscosity compared to triazine derivatives such as melamine formaldehyde precondensates (Page 7, [0112]).

Given that Lehtinen et al and Ratzsch et al are both drawn to compositions comprising melamine resin, in light of the particular advantages provided by the use and control of the etherified melamine resins as taught by Ratzsch et al, it would therefore have been obvious to

Art Unit: 1796

one of ordinary skill in the art to include such resins in the composition disclosed by Lehtinen et al with a reasonable expectation of success.

14. Claim 33, 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lehtinen et al (US 6,030,562) in view of Dyer (US 5,968,986) and Curzon et al (US 2003/0170317) as applied to claims 28-29, 31-32, 34-35, and 39 above, and as evidenced by *Hawley's Condensed Chemical Dictionary* (see attached pages)

Regarding claim 33, modified Lehtinen teaches all the claim limitations as set forth above. However, the reference does not explicitly disclose that the zinc borate comprises 45 wt % ZnO and 36 wt % B<sub>2</sub>O<sub>3</sub>. As evidenced by *Hawley's Condensed Chemical Dictionary*, zinc borate typically comprises 45 % ZnO and 34 % B<sub>2</sub>O<sub>3</sub>, based on typical zinc borate salt comprising 20 wt % water.

Although the reference does not disclose that B<sub>2</sub>O<sub>3</sub> comprises 35 % of the zinc borate salt it would have been obvious to one of ordinary skill in the art to reduce the amount of water in zinc borate in the composition taught by Lehtinen et al and thereby increase the amount of ZnO and B<sub>2</sub>O<sub>3</sub> in order to increase the antibacterial properties of the zinc borate.

Regarding claims 36-38, modified Lehtinen teaches all the claim limitations as set forth above. As discussed above Lehtinen et al discloses that zinc borate comprises 0.1 to 3 wt % of the composition and melamine resin comprises 9 wt % to 15 wt % (Column 3, Lines 8-9 and Lines 21-23). Based on the amounts of melamine resin and borate salt, borate salt comprises 0.66 wt % to 33.33 wt % zinc borate per 100 wt % melamine resin.

Art Unit: 1796

Regarding the amount of borate salt disclosed by the reference, it is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

Regarding claims 40-42, modified Lehtinen teaches all the claim limitations as set forth above. As discussed above Lehtinen et al discloses that zinc borate comprises 0.66 wt % to 33.33 wt % zinc borate per 100 wt % melamine resin and Dyer discloses a composition comprising 0.05 to 5 wt % BAC. Based on the disclosed amount disclosed of zinc borate and BAC, it is determined that the ratio of zinc borate to BAC is 1:0.075 to 1:7.57 while the amount of zinc borate and BAC is 0.72 to 3.33 wt %.

Regarding the ratio of zinc borate to BAC and amount of zinc borate and BAC recited in claims 40-41, it is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

Art Unit: 1796

Regarding the amounts of zinc borate and BAC recited in claim 42, the only deficiency of the reference is that the reference discloses the use of 0.72 wt % zinc borate and BAC, while the present claims require 0.6 wt %.

It is apparent, however, that the instantly claimed amount of zinc borate and BAC and that taught by the reference are so close to each other that the fact pattern is similar to the one in In re Woodruff, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a “slight” difference in the ranges the court held that such a difference did not “render the claims patentable” or, alternatively, that “a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties”.

In light of the case law cited above and given that there is only a “slight” difference between the amount of zinc borate and BAC disclosed by the reference and the amount disclosed in the present claims and further given the fact that no criticality is disclosed in the present invention with respect to the amount of zinc borate and BAC, it therefore would have been obvious to one of ordinary skill in the art that the amount of zinc borate and BAC disclosed in the present claims is but an obvious variant of the amounts disclosed in the reference, and thereby one of ordinary skill in the art would have arrived at the claimed invention.

Regarding claims 43-45, modified Lehtinen et al teaches all the claim limitations as set forth above. As discussed above, above Lehtinen et al discloses that zinc borate comprises 0.66 wt % to 33.33 wt % zinc borate per 100 wt % melamine resin, Dyer discloses a composition

Art Unit: 1796

comprising 0.05 to 5 wt % BAC, and Curzon et al discloses a composition comprising borax in the amount from 0 to 10 wt %. Based on the amounts disclosed it is determined that the ratio of zinc borate to sodium borate to BAC is 1:0-15:0.065 - 7.5, while the amount of zinc borate, sodium borate and BAC is determined to be 0.71 to 43.5 wt %.

Regarding the ratio and amounts of zinc borate, sodium borate and BAC recited in claims 43-44, it is well settled that where the prior art describes the components of a claimed compound or compositions in concentrations within or overlapping the claimed concentrations a prima facie case of obviousness is established. See *In re Harris*, 409 F.3d 1339, 1343, 74 USPQ2d 1951, 1953 (Fed. Cir 2005); *In re Peterson*, 315 F.3d 1325, 1329, 65 USPQ 2d 1379, 1382 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578 16 USPQ2d 1934, 1936-37 (CCPA 1990); *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

Regarding the limitation that the sodium borate and zinc borate have a water of solvation of 10, borax is commonly known in the art as sodium tetraborate decahydrate, thus inherently solvated by 10 water molecules. Regarding the solvation of zinc borate, as evidenced by *Hawley's Condensed Chemical Dictionary*, zinc borate typically comprises 20 percent water. Thus based, on the amount (20 %) and molar mass of water (18 g/mol) and the molar mass of zinc borate (151.031 g/mol), the number of water molecules is determined to be 10.

Regarding the amounts of zinc borate, sodium borate, and BAC recited in claim 45, the only deficiency of the reference is that the reference discloses the use of 0.71 wt % zinc borate and BAC, while the present claims require 0.6 wt %.

Art Unit: 1796

It is apparent, however, that the instantly claimed amount of zinc borate, sodium borate, and BAC and that taught by the reference are so close to each other that the fact pattern is similar to the one in In re Woodruff, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a “slight” difference in the ranges the court held that such a difference did not “render the claims patentable” or, alternatively, that “a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties”.

In light of the case law cited above and given that there is only a “slight” difference between the amount of zinc borate, sodium borate, and BAC disclosed by the reference and the amount disclosed in the present claims and further given the fact that no criticality is disclosed in the present invention with respect to the amount of zinc borate and BAC, it therefore would have been obvious to one of ordinary skill in the art that the amount of zinc borate, sodium borate, and BAC disclosed in the present claims is but an obvious variant of the amounts disclosed in the reference, and thereby one of ordinary skill in the art would have arrived at the claimed invention.

### ***Conclusion***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEXANDER C. KOLLIAS whose telephone number is (571)-270-3869. The examiner can normally be reached on Monday-Friday, 8:00 AM -5:00 PM EST.

Art Unit: 1796

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. C. K./  
Examiner, Art Unit 1796

/Vasu Jagannathan/  
Supervisory Patent Examiner, Art Unit 1796